

ABSTRACT OF THE DISCLOSURE

A rotating drum pressure differential filter is provided whereby a layer of filter medium is continuously refreshed by a spray applicator device after the layer is utilized to filter components from a sample medium and a portion of the layer is subsequently scraped to remove sample medium waste from the layer. Methods of filtration using the device are also provided as are systems employing two or more such filters. A spray applicator device useful for refreshing a layer of filter medium on the outer surface of a rotating drum pressure differential filter is also provided as is a retro fit kit useful in modifying existing rotating drum pressure differential filters to enable the continuous formation of a refreshed filter medium layer. The continuously refreshed filter and filter systems provide a minimized down time of the filter and system operations. Multiple-stage filtration processes are also provided and are particularly useful in the recovery of enzymes from fermentation broths.

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